

Abstract

1. Device and method for wavefront measurement of an optical system.
- 2.1. The invention relates to a device and a method for wavefront measurement of an optical system, in particular by means of an interferometric measurement technique.
- 2.2. According to the invention, a dynamic range correction element is arranged in the beam path upstream of the detector arrangement and is designed such that the variation in the spatially dependent characteristic of a phase of the wavefront forming the interference pattern is kept below a prescribable limit value throughout a detection area. In addition or as an alternative, a set of several diffraction structures of different period length can be used with a shearing interferometry technique and/or a set of several pairs of a reference pinhole and a signal passage opening with different hole spacings can be used with a point diffraction interferometry technique for different subareas of the detection area. A remaining distortion error can be taken into account by determining a corresponding distortion transformation and applying the inverse distortion transformation.
- 2.3. Use, for example, for interferometric wavefront measurement of microlithography projection objectives and modules of optical systems.